

SAINT-GOBAIN



Member Information	Member Capabilities
<p>SAINT-GOBAIN MERRIMACK, NH https://www.coretechprotection.com Key POC(s): CHUCK HOBBS; robert.c.hobbs@saint-gobain.com Business Class: Large Status: Non-Traditional Member since: Jun 2018</p>	<p>PROTECTION:</p> <ul style="list-style-type: none">• Chemical biological protective materials<ul style="list-style-type: none">• fabrics,• laminates,• films• Design & fabrication of CB end user products<ul style="list-style-type: none">• chemical suits,• shelters,• Hoods, etc.
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none">• Device Packaging (CWMD1914-005) – Project Lead• CHRT - sub, material supply• CASB – sub, material supply• Contaminated Casualty Containment Litter – sub, material supply• JBADS – sub, material supply	<ul style="list-style-type: none">• Chemical biological protective materials (fabrics, laminates, films)• Design & fabrication of CB materials• Chemical suits, shelters, hoods, parts, etc.



Air Shelters USA, LLC

Member Information	Member Capabilities
<p>Air Shelters USA, LLC Pompano Beach, FL www.ZURMO.com Key POC(s): Trent Baer, tbaer@bfxfire.com Business Class: Small Business Status: Non-Traditional Member since: AUG 19</p>	<p><u>PROTECTION</u></p> <ul style="list-style-type: none">- Mass Personnel Contamination Mitigation Systems- Technical Decontamination Systems- Positive and Negative Pressure Shelter Systems- Medical Operations Support Shelter Systems- Water Handling and Containment- Custom Shelter Systems
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none">• GA NG CERFP	<ul style="list-style-type: none">• Water Heating and Handling• Air Filtration and Pressure Management

CWMD Member Information	Member Capabilities
<p>JGW Group Reston, VA https://www.jgwgroup.com/ Key POC(s): Jack O’Neil, joneil@jgwgroup.com Business Class: Small Status: Nontraditional Member since: Nov 2017</p>	<ul style="list-style-type: none"> JGW has performed as the Prime Contractor under the CWMD OTA, JE-RDAP on a variety of programs. Most recently JGW are prime under, Invasive sampling projects, a CBRNE Training Equipment Contract and a Robotics Universal Controller Contract JGW has successfully brought many of the leading manufacturers of CWA Detection and Protection into the US Military and Homeland Security markets and has supported clients efforts with CDC and BARDA in their evaluations of Medical technologies and capabilities.
CWMD Projects/Related Efforts	Desired Teaming Areas
<ol style="list-style-type: none"> CWMD1802-002: Bulk Agent Sample Transfer (BATS) Award: April 2018 Completion: July 2019 HSFE20-16-P-0221: CBRNe Training Equipment Contract April 2016 W911QY-19-P-0071 AARDVARK Invasive Sampling System 	<p>JGW are considered a "Nontraditional Defense Contractor" and are happy for any priming, teaming, or subcontracting opportunities with may be available from other CWMD or MCDC Member companies.</p> <p>JGW also has a dedicated Proposal Team and a dedicated CBRNE, Mail Safety and X-ray Training Group with assets available for Gov’t or Dept of Defense program proposal and execution globally</p>

Defense Acquisition Solutions Group



Member Information	Member Capabilities
<p>Defense Acquisition Solutions Group 4278 Dunwoody Circle, Southport, NC 28461 www.defenseacq.com Key POC(s): Mike Stevens, mike@defenseacq.com Tom Bouchard, tom@defenseacq.com Business Class: Small SDVOSB Status: Non-Traditional Member Since: 02/2018</p>	<p>Related Services White Paper Proposal Assistance, Capture Strategy, ITAR, Commerce Department Licensing, Conflict Minerals, Program Management, Cost/Price to Win, Cost Sharing, Payment Schedules, Statements of Work and Milestone Schedules, VA Certification and Certification Assistance, Bio, Engineering, Demilitarization, CWMD, Chemical and Systems Management, T&E, QA/QC,</p>
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Entire JPEO-CBRND Portfolio, Individual and Collective Protection, Decontamination, Medical, Sensors, Obscurants, Demilitarization and Resistant Coatings • Architects of OPETS, JE-OPETS, JE-CLaSS, JE-RDAP, SSA of 600+ JPEO-CBRND proposals • CWMD and MCDC OTAs 	<ul style="list-style-type: none"> • International Partnering • Program Management • Government Interface to Include Lead agency for OTA White Paper/Proposal Preparation • Oversight and Interface to the government for Cost, Schedule, Performance and Response to Proposal Update Letter



General Dynamics

GENERAL DYNAMICS Information Technology

Member Information	Member Capabilities
<p>General Dynamics Information Technology Falls Church VA www.gdit.com Key POC(s): Tobe Deutschmann tobe.deutschmann@gdit.com Brian Smith brian.smith@gdit.com Business Class: Large Status: Traditional Member since: May 2018</p>	<p>RELATED SERVICES</p> <ul style="list-style-type: none">• Artificial Intelligence• Data Analytics• Software Factories• Cloud Solutions, Migration• DevSecOps
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none">• Joint Effects Model (JEM)• CBRN IS• milCloud 2.0	<ul style="list-style-type: none">• CBRN IS• IEW

ENIWETOK GROUP, LLC



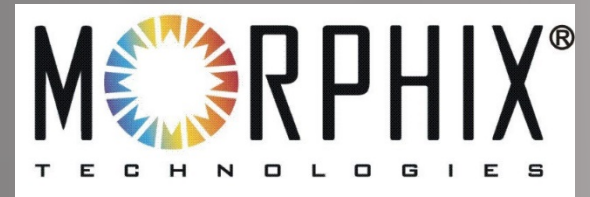
Member Information	Member Capabilities
<p>Eniwetok Group, LLC (EGL) Richardson, TX www.eniwetokgroup.com</p> <p><u>Key POC(s):</u> Caroline Hiser Sivley (Carrie); sivleyc@eniwetokgroup.com Monica Bohnert,; bohnertm@eniwetokgroup.com Theodore (Ted) Sivley; sivleyt@eniwetokgroup.com</p> <p><u>Business Class:</u> Small, Women Owned, Veteran Owned <u>Status:</u> Non-Traditional <u>Member since:</u> February, 2018</p>	<p>CWMD:</p> <ul style="list-style-type: none"> • Mobile Detection and Analytical Instrumentation Operational Expertise • Laboratory Design, Development, Integration, Operation and Sustainment • Application-based Training Development and Delivery • Realistic, Scenario-based Site Exploitation Training and Exercises • Subterranean Operations Expertise • Capability Development across DOTMLPF spectrum • Vulnerability and Threat Analysis • Confined Space Breaching Expertise , Target Assessment • Special Mission Unit Method of Entry/ Breaching • Breaching Program Development, Tailored to Organizational Needs • Research and Development • Certified SCBA and Gas Monitor technicians for industry standard equipment.
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Next Generation Chemical Detector System Training and TM Development (MPCAD) • Technical Training Instructors for NGB WMD-CST • Provider of Full Scale WMD-CST Exercises • Counter Explosive Hazards Center – Specialized Deliberate Breach Course Instruction • USSOCOM Subterranean Breaching Course 	<ul style="list-style-type: none"> • Developmental efforts - real-world, operational experience • Field testing, operational testing for developmental efforts • Training and doctrine development • Exercise Development and Support • Medical Operations Development and plan implementation

Accurate Energetic Systems, LLC



Member Information	Member Capabilities
<p>Accurate Energetic Systems, LLC McEwen, TN www.aesys.biz Key POC(s): George Kuchta, Kuchta@aesys.biz Judd Sanderfer, Sanderfer@aesys.biz Business Class: Small Status: Non-Traditional Member since: June 2019</p>	<p>Related Services Manufacturer of explosive charges for Hard Target Defeat</p> <ul style="list-style-type: none">• Linear shaped charges• Conical shaped charges/EFPs• Bulk explosive charges• Explosive entry charges• Test assets
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none">• None, new member	<ul style="list-style-type: none">• Hard Target Defeat efforts• EOD efforts• Explosive charge development and production scale-up<ul style="list-style-type: none">• Onsite explosive test range

Morphix Technologies, Inc.



Member Information	Member Capabilities
<p>Morphix Technologies, Inc. Virginia Beach, VA www.Morphtec.com</p> <p><u>Key POC(s):</u> Kimberly Pricenski, kpricenski@morphtec.com</p> <p><u>Business Class:</u> Small Business</p> <p><u>Status:</u> Non-Traditional</p> <p><u>Member since:</u> Sep 2019</p>	<p>Sensors: Morphix develops and manufactures colorimetric sensors for specific chemicals and/or chemical classes. These colorimetric sensors are field rugged and have been tested and are being used in a broad range of environmental conditions (desert, tropical and arctic). These sensors may also be immersed in salt water or fresh water without impacting performance. These sensors may be read either by the human eye or using an optical reader.</p>
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none">• None so far but hoping to collaborate soon!	<ul style="list-style-type: none">• Possible integration of our sensors into a partner's product to achieve detection of a wider array of chemical agents.• Integration of our technology into other platforms – drones or robots.• We welcome all discussions regarding opportunities to collaborate.



Phoenix Operations Group



SBA
8(a) Certified

Member Information	Member Capabilities
<p>Phoenix Operations Group Woodbine, Maryland https://phoenix-opsgroup.com</p> <p>Key POC(s): Greg Kamigawachi, greg.kamigawachi@phoenix-opsgroup.com</p> <p>Business Class: Small (40 employees) Status: Non-Traditional Member since: February 2018</p>	<p>SENSORS</p> <ul style="list-style-type: none"> • Artificial Intelligence • Machine Learning • Big Data Analytics • Cloud Computing <div style="text-align: center; margin: 10px 0;"> </div> <ul style="list-style-type: none"> • Data Scientists • Software Engineers • Cloud Integrators
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Command Post Computing Environment (Army) • Constellation – Countering WMDs (DTRA) • Defensive Cyber Analytics (DHS) 	<ul style="list-style-type: none"> • Interagency Collaboration • Logistics & Infrastructure • Happy Hours



MCDC

Member Information	Member Capabilities		
<p>Research International, Inc. Monroe, Washington 98272 www.resrchintl.com</p> <p>Key POC(s) Jonathan Tobelmann jontobelmann@resrchintl.com Elric Saaski elricsaaski@resrchintl.com</p> <p>Business Class: Small Status: Non-Traditional Member since: October 2018</p>	<p>SENSOR Category</p> <table border="0"> <tr> <td data-bbox="1200 464 1770 706"> <p><u>Integrated Sensor Systems</u></p> <ul style="list-style-type: none"> • CBRNE Mailroom • Integrated Subway Systems • CBRN Vehicles • UAV CBRN Systems </td> <td data-bbox="1770 464 2354 706"> <p><u>Sensors</u></p> <ul style="list-style-type: none"> • Biological Detection • Biological Identification • CBRN-Remote Sensor Nodes • Bio Wet and Dry Air Sampling </td> </tr> </table> <p>Develop Sensors all the way to commercialization. Integrate and Install CBRNE Systems.</p>	<p><u>Integrated Sensor Systems</u></p> <ul style="list-style-type: none"> • CBRNE Mailroom • Integrated Subway Systems • CBRN Vehicles • UAV CBRN Systems 	<p><u>Sensors</u></p> <ul style="list-style-type: none"> • Biological Detection • Biological Identification • CBRN-Remote Sensor Nodes • Bio Wet and Dry Air Sampling
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CWMD Projects/Related Efforts	Desired Teaming Areas		
<ul style="list-style-type: none"> • Member BioDetection 21 team • Jointly Developed Bio-Identifiers and commercialized • Participated in APDS Subway program • Jointly Developed and flew a Bio-Identification UAV • Jointly developed and commercialized a CBRN Ground Robotic System 	<ul style="list-style-type: none"> • CBRN Integration Programs • Air Sampling Device/System Development • Biological Detection/Identification Programs • CBRNE Robotic Ground Systems • CBRN UAV systems 		

Member Information	Member Capabilities
<p>XIA LLC Hayward, CA www.xia.com</p> <p>Key POC(s): Christopher Cox ccox@xia.com Michael Sears msears@xia.com</p> <p>Business Class: Small Status: Non-Traditional Member since: December 2017</p>	<p>Category: Sensors</p> <ul style="list-style-type: none"> • Design and manufacture of miniaturized gamma-spectroscopy electronics for mobile/hand-held/wearable RIID. • Radiation detector pulse processing; digitization, pulse height/shape/time measurements, energy spectra. • FPGA algorithms for pulse-shape analysis, (eg neutron-gamma discrimination). • Customization and front-end integration with radiation sensors.
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • DTRA-STTR “Discrete 3-D Electronics for Mobile Radiation Detection Systems” 	<p>Team with</p> <ul style="list-style-type: none"> • System integrators • Data analysis / software expertise

Rapiscan Systems, Inc.

Member Information	Member Capabilities
<p>Rapiscan Systems, Inc. Torrance, CA https://www.rapiscansystems.com Key POC(s): Dr. Neale Messina, nmessina@rapiscansystems.com Business Class: Large Status: Non-Traditional Member since: June_2018</p>	<p>SENSORS:</p> <ul style="list-style-type: none"> • Leading global provider of security inspection solutions for force protection needs and CWMD missions utilizing NII X-ray imaging, advanced threat detection/identification systems of gamma/neutron radiation sources (handheld, wearable/man-portable, fixed site portals, mobile) and explosive, narcotics , and CWA trace detection products (IMS and MS). • Prototyping, production, training, and field support <p>RELATED SERVICES: Turnkey screening solutions at Land and Seaport POEs utilizing latest sensor technologies, site planning, installation, personnel training, operations, and management.</p>
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • CWMD1803: Multi-Phase Chemical Agent Detector – major subcontractor to prime • CWMD1829: Comprehensive User Interface – Common Viewer Prototype 	<ul style="list-style-type: none"> • RAdiation Portal Technical Enhancement and Replacement (RAPTER) program • CBRNE sensor integration and networking • Radionuclide identification algorithm development and/or licensing

PAE- National Security Solutions LLC



Member Information	Member Capabilities
<p><u>PAE:</u> Falls Church, VA www.pae.com</p> <p><u>Key POC(s):</u> Kenneth Myers, Sr Vice President; Kenneth.myers@pae.com Cecily Sullivan, Director; Cecily.Sullivan@pae.com Jeff Farnquist, Director; Jeff.Farnquist@pae.com</p> <p><u>Business Class:</u> Large <u>Status:</u> Traditional <u>Member since:</u> May, 2018</p>	<ul style="list-style-type: none">• PAE is a \$2.7B company operating in 60 countries on all 7 continents with a workforce of over 20,000.• PAE supports the execution of complex and critical missions by providing global logistics and stability operations, technical services, national security and counter-threat solutions to customers around the world.• PAE provides both CONUS and OCONUS operational, training, exercise, and equipment support to numerous USG customers in the counter-threat arena.
CWMD Projects/Related Efforts	Desired Teaming Areas
<p>DTRA Red Team; DTRA Technical Support Group; DTRA Cooperative Threat Reduction Integration Contract III; JPEO-CBD JE-RDAP; DoD CBRNE programs and operational, training, and equipment for the IC and SOF community.</p>	<p>We are eager to team with Large and Small companies as well as potential academic partners on a variety of technical and research and development projects in the SOF market of DoD, DoE and IC markets.</p>



First Line Technology, LLC



Member Information	Member Capabilities
<p>First Line Technology, LLC Chantilly, VA 20151 www.firstlinetech.com Key POC(s): Amit Kapoor, CEO akapoor@firstlinetech.com Business Class: Small Status: Non-Traditional Member since: November, 2017</p>	<p>Protection</p> <ul style="list-style-type: none">• Decontamination <p>Related Services</p> <ul style="list-style-type: none">• Prototyping Services• Production Services
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none">• None to date	<ul style="list-style-type: none">• Prototyping• Research and Development• Manufacturing

Member Information	Member Capabilities
<p>Excet Inc. Edgewood, Maryland</p> <p>Key POC(s): Patrick M. Nolan, pnolan@excetinc.com</p> <p>Business Class: Small</p> <p>Status: Nontraditional</p> <p>Member since: November, 2017</p>	<ul style="list-style-type: none"> • Chemical Surety Operation (Personal Reliability Program) LOI/CRADA (CCDC CBC) • Biological Select Agents & Toxins (BSAT) Operations • Aerosol Technology Development • Smoke & Obscuration Technology Development • Biological & Chemical Detection Research & Development • Canine Odor Certification & Canine Operational Capabilities
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Currently no consortium projects. • Excet has multiple contracts awarded by The U.S. Army Combat Capabilities Development Command Chemical Biological Center (CCDC CBC), located at Aberdeen Proving Ground, Maryland. 	<ul style="list-style-type: none"> • RDT&E Chemical & Biological Defense: Physical Protection, Smoke & Obscurations, Synthetic Biology, Biotechnology, Detection, Decontamination, and Contamination Avoidance • Prototype Test and Evaluation

KEF Robotics Inc.



Member Information

Pittsburgh, PA

www.kefrobotics.com

Key POC(s): Fraser Kitchell, fraser@kefrobotics.com

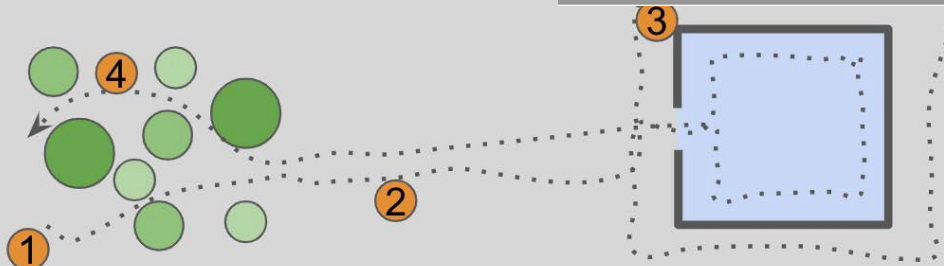
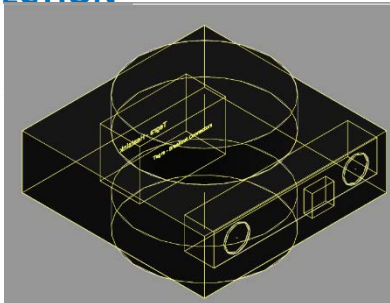
Business Class: U.S. owned Small Business

Status: Non-Traditional

Member since: August 2019

CWMD Projects/Related Efforts

SOFWERX CONTRACT TO DEMONSTRATE AERIAL AUTONOMY FOR BUILDING INSPECTION

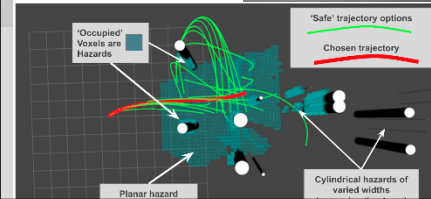
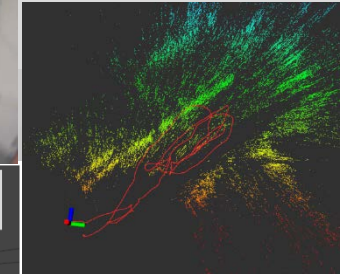


Member Capabilities

RELATED SERVICES

Small, Unmanned Aerial System (sUAS) Autonomy
GPS-denied navigation, Hazard Detection and Avoidance, Path planning, computer vision, machine learning

Target Detection & Tracking



Desired Teaming Areas

- We're a Small business – SBIRs, or subcontracts from primes
 - Please consider us autonomy and software developments
- **CWMD Con-Ops:** Deploying/emplacing sensors, gathering data, dispersing aerosol/atmospheric suppressants, monitoring, building entry.

Member Information	Member Capabilities
<p>AVARINT, LLC Buffalo, New York www.avarint.com Key POC(s): David Mangino; 716.812.4186; david.mangino@avarint.com Business Class: Small Status: Non-Traditional Member since: April 2018</p>	<p><u>RELATED SERVICES</u></p> <ul style="list-style-type: none"> • Live chemical and biological agent Test & Evaluation (T&E) facilities operating since 1983 (U.S. Army and CDC) • Broad expertise in RDT&E with BWAs, CWAs, TICs and NTAs to support all types of PROTECTION and SENSOR programs • Large-item test chambers; state-of-the-art test infrastructure, analytical instrumentation and test/analysis methodologies • Specialize in technical approaches to non-standard T&E and agility to provide services with quick turn-around times
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • JPEO-CBRND: Multiple ongoing decontamination and protection test programs; glove and helmet covers production lot testing (CWA and NTA) • DTRA/Industry: T&E support to several SENSOR developer companies (BWA, CWA and NTA) • TACOM/Manufacturers: Production Lot Testing. M8, M9, M295 kits, A200 Sorbent and M256A2 kits 	<ul style="list-style-type: none"> • Work with Industry companies in the early stages of a program (proposal) to provide technical approaches to, and perform the T&E component of the project: <ul style="list-style-type: none"> • Scientifically rigorous • Cost effective • Incorporate operational relevance • Pre-RFP proof-of-concept testing with live agents (risk reduction)



Member Information	Member Capabilities
<p>Spectral Labs Incorporated San Diego, CA www.spectrallabs.com</p> <p>Key POC(s): Jim Winso, winsoj@spectrallabs.com Eric Ackermann, ackermanne@spectrallabs.com John Rolando, rolandoj@spectrallabs.com</p> <p>Business Class: Small Business Status: Non-Traditional Member since: April 2018</p>	<p>Product Development and Manufacturing</p> <ul style="list-style-type: none"> • Multi-discipline engineering & physics • Embedded, PC, Smartphone and Web-based software • Instrumentation design and prototyping • Sensors, radiation detection, imaging • Low to medium rate manufacturing <p>Immersive Computer Based Training (CBT)</p> <ul style="list-style-type: none"> • Video game style training development • CRNE physics, instrument simulations, maintenance • 3D graphics and game programming
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Vehicle Integrated Platform Enhanced RADIAC (VIPER). • Mounted Enhanced RADIAC Long-range Imaging Networkable (MERLIN). Subcontractor to H3D. • Sensor Suite Upgrade (SSU). Subcontractor to FLIR. 	<p>Collaboration as Prime, Subcontractor, or Teammate</p> <ul style="list-style-type: none"> • Product development • Rad detection, identification, location, and imaging • Computer based training development • Mil Spec Testing • ISO-9001: 2015 Manufacturing

Member Information

Design West Technologies
Tustin, CA

<http://www.dwtusa.com/>

Key POC(s):

Ryan Hur, President: ryan.h@dwtusa.com

Paul D'Angelo, Program Manager: paul.d@dwtusa.com

Business Class: Small Disadvantaged Business

Status: Non-traditional

Member since: August 2018



Member Capabilities

Protection:

- Individual
- Collective

Sensors

- Wearable/Disposable
- Point Detection & Area Monitoring
- Drop Sensors (Drones)

Related Services:

- Environmental & Life Cycle Testing



CWMD Projects/Related Efforts

- Wearable disposable badge detecting TICs - DHS SBIR #HSHQDC-17-C-00043
- Handheld ammonia detector - CWMD OTA Agreement #2018-877 (W15WKN-18-9-100)
- UAV TIC sensor module - SOFWERX AIM-Challenge Winner 2019 (CB Sensor - CPO 24)
- Fan-Filter-Housing-Assembly 400 CFM – Built to Performance Spec.




Desired Teaming Areas

- Individual & Collective Protection
- Fan Blower Design & Control (1 CFM to 1000 CFM)
- Sensor Array: Formulation & Algorithm
- Sensor Package: SWAP-C, Software, Firmware
- Communication: ATAK, Mesh-Network, SatCom



Member Information	Member Capabilities																																																							
<p>SRC, Inc. (*Top Secret Facilities) Syracuse, NY*; Aberdeen, MD; Arlington, VA; Chantilly, VA*; Charlottesville, VA*; Dayton, OH*; Huntsville, AL; Rome, NY*; San Antonio, TX*</p> <p>Key POC(s): Victor Denard; vdenard@srcinc.com Stephen Houghton; shoughton@srcinc.com</p> <p>Business Class: Large, Not-for-Profit</p> <p>Status: Non-traditional</p> <p>Member Since: January 2018</p>	<table border="1"> <thead> <tr> <th>CAPABILITY</th> <th>PROTECTION</th> <th>SENSORS</th> <th>RELATED SERVICES</th> </tr> </thead> <tbody> <tr> <td>ISR Data Collection & Analytics</td> <td>✓</td> <td></td> <td>✓</td> </tr> <tr> <td>Data Fusion and Visualization</td> <td>✓</td> <td></td> <td>✓</td> </tr> <tr> <td>Synthetic Aperture Radar Imaging & Processing Algorithms</td> <td>✓</td> <td></td> <td>✓</td> </tr> <tr> <td>Real-Time Situational Awareness: MULTI-INT Tipping & Cueing</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Chemical Threat Risk Assessments and Research</td> <td>✓</td> <td></td> <td>✓</td> </tr> <tr> <td>Environmental Agent Fate and Transport Modeling</td> <td>✓</td> <td></td> <td>✓</td> </tr> <tr> <td>Facilities: (In addition to 136K sf manufacturing facility)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>• 19,000 sq ft of lab space for radio frequency, comms, I&T</td> <td></td> <td></td> <td></td> </tr> <tr> <td>• Environmental/temperature testing chambers</td> <td></td> <td></td> <td></td> </tr> <tr> <td>• Dedicated Machine Learning/Artificial Intelligence lab and COE</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>• Prototype machine shop, RF screen rooms, 3-D printer</td> <td></td> <td></td> <td></td> </tr> <tr> <td>• EMI, Far-field & Spherical near-field anechoic chambers</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				CAPABILITY	PROTECTION	SENSORS	RELATED SERVICES	ISR Data Collection & Analytics	✓		✓	Data Fusion and Visualization	✓		✓	Synthetic Aperture Radar Imaging & Processing Algorithms	✓		✓	Real-Time Situational Awareness: MULTI-INT Tipping & Cueing	✓	✓	✓	Chemical Threat Risk Assessments and Research	✓		✓	Environmental Agent Fate and Transport Modeling	✓		✓	Facilities: (In addition to 136K sf manufacturing facility)				• 19,000 sq ft of lab space for radio frequency, comms, I&T				• Environmental/temperature testing chambers				• Dedicated Machine Learning/Artificial Intelligence lab and COE	✓	✓	✓	• Prototype machine shop, RF screen rooms, 3-D printer				• EMI, Far-field & Spherical near-field anechoic chambers			
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<ul style="list-style-type: none"> Chem and Tox Threat Modeling and QSARs (DTRA, EPA, CDC) Cheminformatics and Forensics Apps (DHS) Chemical Facility Risk Assessment Apps (DIA) Agent Property Estimation and Databases (DIA) CB Sensor and Assay Development for Chem Bio (JPEO-CBRND) <ul style="list-style-type: none"> - JUPITR, JBTDS, Aerosol Collector, Raman Surface Det Swabs 	<ul style="list-style-type: none"> Neuromorphic computing and ML for CBRN IEW Analysis and modeling of CBRN and non-CBRN sensor data video, intelligence for rapid decision support Radar detection and data analysis of incoming mortar fire for CBRN discrimination CBRN Modeling and Chemical Property Estimation 																																																							

N5 Sensors, Inc.

Member Information

N5 Sensors Inc

9610 Medical Center Drive, Suite 200
Rockville, MD 20850
www.n5sensors.com

Key POC(s):

Dr Abhishek Motayed, CEO, amotayed@n5sensors.com

Business Class: Small

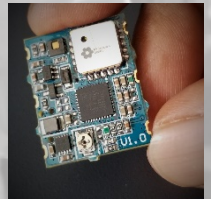
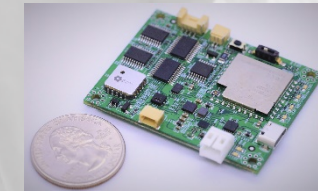
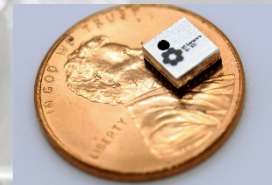
Status: Non-Traditional

Member since: Oct 2018

Member Capabilities

SENSORS

- Ultra-low power gas and chemical sensor design and manufacturing
- Sensor array
- Integrated system design
- Gas and chemical sensor testing
- Semiconductor manufacturing and packaging



CWMD Projects/Related Efforts

- Participating in Technology Readiness Evaluation led by JPEO for CVCAD

Desired Teaming Areas

- Complimentary Radiation and Biological Sensor Integration, System integration, Manufacturing, Algorithm Development for CWMD ID, Different Platform Integration

Rhodium Scientific, LLC



Member Information	Member Capabilities
<p>Rhodium Scientific, LLC - Houston, TX https://www.issnationallab.org/implementation-partners/rhodium-scientific-llc/ Key POC(s): Olivia Holzhaus, Olivia@RhodiumScientific.com Heath Mills, Heath@RhodiumScientific.com R.P. Oates, rp@rhodiumscientific.com Business Class: Small Status: Non-Traditional Member since: March, 2019</p>	<p>RELATED SERVICES: services to support prototyping, production, other systems integration</p> <ul style="list-style-type: none"> • Facilitation of microgravity experiments on the International Space Station (ISS) • Science consulting for project quality assurance and project translation into a space environment • Mission integration and operation of project on ISS • Spaceflight hardware development, optimization and brokerage • Project management and multi-disciplinary team building
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • CWMD Awarded: <i>Prototype Enabling Development of a Novel Astronaut Gut-On-A-Chip Platform</i> • CWMD Awarded (Prototype): <i>Protective Remote Environment Biomanufacturing for Human Systems</i> • Relevant CWMD Awarded: <i>Evolution of New Phage-Bacteria Interactions from Exposure to Space Environment</i> 	<ul style="list-style-type: none"> • Biotech-related countermeasure development/expertise • Miniaturized, ruggedized, deployable hardware that is remotely operated/automated • Sensors - chemical and/or biological detection capability • Low dose and/or mixed field radiation experiments/expertise • Researchers/program managers interested in space prototypes • Researchers/program managers interested in torpor studies



Member Information

Intelligent Optical Systems, Inc.

Torrance, California

www.intopsys.com

Key POC(s):

Manal Beshay, mbeshay@intopsys.com

Olivia Huang, ohuang@intopsys.com

Business Class: Small Business

Status: Non-Traditional

Member since: January 2018



Member Capabilities

SENSORS

- Optical sensors and detection systems suitable for EMI shielding
- Chemical sensors for point and distributed detection
- Colorimetric and fluorescent coatings core competence
- Ultra low-SWaP point detectors for chemicals in liquid & gas phase





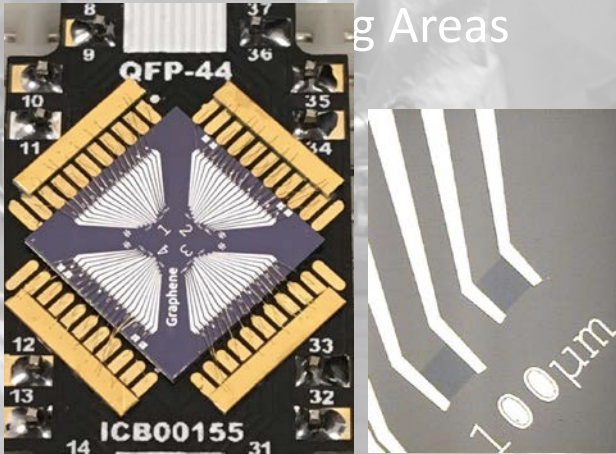
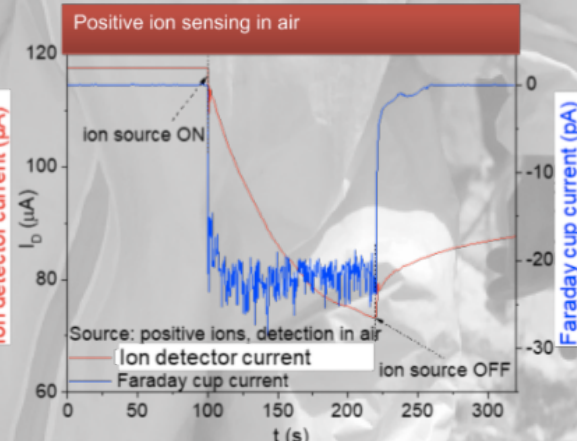
CWMD Projects/Related Efforts

- ROSETTA
- CSIRP

Desired Teaming Areas

Sensor system integration
 Signal processing development
 Field demonstration and test validation through chemical release
 Sampling and concentrators

Member Information	Member Capabilities
<p>Kromek Zelienople, Pennsylvania www.kromek.com Key POC(s): Craig Duff, Product Manager, craig.duff@kromek.com Business Class: Small Business Status: Nontraditional Member since: February, 2018</p>	<p>SENSORS</p> <ul style="list-style-type: none"> • High sensitivity gamma/neutron networkable PRDs • Wearable discreet RIID • Small form factor medium resolution RIID for advanced Reachback • Biological sensors 
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • CWMD1904: Joint Personal Dosimeter Squad, Increment 0 Operational Evaluation • CWMD70RDND18C4: SIGMA • HDTRA118C0072: Medium Resolution Search and ID Detectors 	<ul style="list-style-type: none"> • Integrated systems

Member Information	Member Capabilities
<p>Guardion, Inc. Burlington, MA GuardionTech.com Key POC(s): Dan Esposito, dan@guardiontech.com Business Class: Small Status: Non-Traditional Member since: Aug, 2018</p>	<p>Sensors (Ion sensors for Mass Spec, Ion Mobility, and radiation)</p> <ul style="list-style-type: none"> • Ultra-sensitive 2D Materials based ion detectors • Gain of 10^6-10^8 with no preamplifier (No electron multiplier) • Can determine Positive/Negative • Works in atmosphere, open air, and high vacuum • Semiconductor processable • Applications: Ion Mobility Spec, Mass Spec, Radiation Sensing
<p>Desired Teaming Areas</p>	<p>g Areas</p>
<ul style="list-style-type: none"> • Ion mobility spectrometry (Gain at atmosphere) • Ionizing Radiation Sensing (X-ray) • Sensor networks 	 <p>The left image shows a square chip with a central 'Graphene' region and four electrodes labeled 'A', 'B', 'C', and 'D'. The chip is mounted on a PCB with pins labeled 'QFP-44' and 'ICB00155'. The right image shows a close-up of a sensor structure with a '100µm' scale bar.</p>  <p>The graph, titled 'Positive ion sensing in air', plots current against time (t in seconds). The left y-axis is 'Ion detector current (µA)' ranging from 60 to 120. The right y-axis is 'Faraday cup current (pA)' ranging from 0 to -30. A red line represents the ion detector current, which drops from approximately 115 µA to 80 µA when the 'ion source ON' signal is applied at t=100s. A blue line represents the Faraday cup current, which shows a sharp negative spike to about -25 pA at t=100s. The 'ion source OFF' signal is applied at t=220s, after which both currents return to their baseline levels.</p>

RTI International



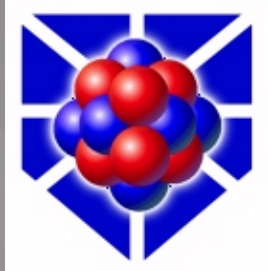
Member Information	Member Capabilities
<p>RTI International Research Triangle Park, NC www.rti.org Key POC(s): David Dausch (presenter); dausch@rti.org Howard Walls; hjwalls@rti.org Business Class: Non-Profit Status: Traditional Member since: June 2018</p>	<p><u>SENSORS (primary)</u></p> <ul style="list-style-type: none"> • Low-SWAP bioaerosol sensor / real-time anomaly detection • Real-time, wearable personal exposure monitoring • Physiological monitoring as bio exposure diagnostic • Machine learning/AI, data architectures, VR/AR models <p><u>PROTECTION</u></p> <ul style="list-style-type: none"> • Protective garment testing (aerosol), swatch to system • Aerosol modeling, speciation, fate & transport • Subcutaneous, biodegradable drug delivery platform
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • BioDetection 21 (DHS): low-cost bioaerosol sensor • SIGMA+ Human Sense (DARPA): presymptomatic detection of infection 	<ul style="list-style-type: none"> • Chem-Bio detection and mitigation • Autonomous surveillance • Data integration and analytics • Dose delivery of MCM's & pre-exposure prophylaxis • WMD medical support (personnel monitoring & protection)

Chemring Sensors and Electronic Systems, Inc

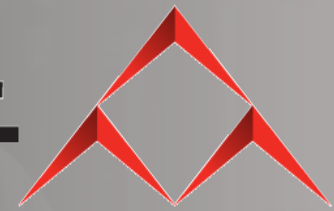


Member Information	Member Capabilities
<p>Chemring Sensors and Electronic Systems, Inc Charlotte, NC https://www.chemring.co.uk/about-us/our-business/chemring-sensors-and-electronics</p> <p>Key POC(s): Mirela Popa, PhD mpopa@chemringsensors.com</p> <p>Business Class: Large Status: Traditional Member since: November 2017</p>	<p>SENSORS</p> <ul style="list-style-type: none"> • System integrator with state of the art testing, laboratory facilities, engineering development, and manufacturing capabilities in one location • Developer and manufacturer of chemical, biological, and explosive detection and identification products, including core technology, hardening for environment, and platform integration • Testing capabilities include environmental stress facilities, toxic industrial chemical and biological testing laboratories, and clean rooms • Production facility with flexible manufacturing workspace that supports rapid reconfiguration to specific applications and with excess capacity for large scale production • Experience with Programs of Record (POR) execution • Cleared to hold DoD classified information • ISO 9001:2015/AS9100D Quality certification • ISO 14001 (2015)/OHSAS 18001(2007) Health/Safety certification
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Current PORs: AVCAD, EMBD, JBTDS, HMDS • Legacy programs: JSLSCAD and JBPDS • CWMD OTA programs: C-SIRP sub to Draper 	<ul style="list-style-type: none"> • System / sensor integration • UAV and UGV sensor integration • Manufacturing opportunities • Early technology evaluation – next gen chem bio technologies

NUCSAFE, INC.



Member Information	Member Capabilities
<p>Nucsafte, Inc. Oak Ridge, TN www.Nucsafte.com Key POC(s): Stan Cass, scass@nucsafte.com Business Class: Small Business Status: Non Traditional Member since: February, 2019</p>	<p>SENSORS – Radiation/Nuclear Detection</p> <ul style="list-style-type: none">• Area Monitors• Human Portable• Mobile Systems (Aerial, Maritime and Vehicle)• Pedestrian Portals• Vehicle Portals• BackScattter X-ray• Neutron Detectors
CWMD Projects/Related Efforts	Desired Teaming Areas
	<ul style="list-style-type: none">• Sensor Development



Member Information

Rock West Solutions Division
 Santa Barbara, CA
<https://www.rockwestsolutions.com>

Key POC(s):

Dr. Don Pritchett
 Dr. Tom Old

Business Class: Small Business

Status: Non-Traditional

Member since: October 2018

Member Capabilities

Sensors, Detectors, and Analysis Tools

- Source isotope ID – gamma, x-ray, neutron
- Electro-optical sensing spanning UV through far IR
- Signal processing analytics, integrated into sensor systems
- Specialize in low signal to noise, detection and ID
- Novel signal processing algorithms, including Bayesian
- Our sensors provide mission critical results with statistically based confidence metrics

CWMD Projects/Related Efforts

- Project S1: 2015-2018, \$2.7M – Handheld Spectrometer
- Project S2: 2016-2018, \$3.3M – Large Area Spectrometer
- Project S3: 2018-2023, \$8.6M – Special Purpose Spectrometers
- Project R1: 2014, \$0.45M – Signal Detection & ID
- Project R2: 2016, \$0.67M – Algorithms for Low SNR ID
- Project R3: 2018, \$1.8M – Software for Low SNR ID

Sensors

Analysis



Desired Teaming Areas

- Detector and spectrometer design and development
- Algorithms to deliverable software tools for signature analytics
- Low noise front end analog circuits design
- Credibility and confidence metrics for existing analysis methods
- Prototype to low rate of production sensors and analysis tools



Member Information	Member Capabilities
<p>MRIGlobal Kansas City, MO; www.mriglobal.org <u>Key POC(s):</u> Paul Haney, phaney@mriglobal.org, 816-326-5476 Jason Gordon, jgordon@mriglobal.org, 816-326-5135 <u>Business Class:</u> Non-Profit <u>Status:</u> Non-Traditional <u>Member since:</u> January 2018</p>	<p>SENSORS</p> <ul style="list-style-type: none"> • CBRN sensor suite platform integration • Agnostic sensor T & E • CBRN sensor maturity • Surety and select agent T & E • Supporting infrastructure and referee systems • Field testing and support • Counter proliferation support • Software and algorithm development
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • NBCRV Development of Platform Agnostic Sensor Suite • CBRN Sensor Integration on Robotic Platforms (CSIRP) • Real-time 3D Mapping of Radiological Threats • Containment and Vapor Delivery System for CBE Threat • Operationally Realistic Testing Prototype • Compact Bioaerosol Collection System for VTOL UAS 	<ul style="list-style-type: none"> • Integrated Early Warning (IEW) sensor suite integration • CBRN sensor suite platform integration • CBRN T & E • Data acquisition, processing, and fusion • Common operating environment (COE) • Expeditionary Analytics

Member Information	Member Capabilities (Diagnosis/Detection)
<p>www.mriglobal.org Gaithersburg, MD; Kansas City, MO.</p> <p>Key POC(s): Joseph Bogan, jbogan@mriglobal.org, 240-361-4005 Ed Sistrunk, esistrunk@mriglobal.org, 816-326-5650</p> <p>Business Class: Non-Profit (501c3) Status: Traditional Member since: April 2016</p>	<p>Global Health Surveillance and Diagnostics</p> <ul style="list-style-type: none"> • Research and development: infectious disease and biotreatments • Clinical in vitro diagnostics, molecular and immunoassay biodetection, and FDA 510k validation <p>Medical Countermeasures</p> <ul style="list-style-type: none"> • Product support and validation across all capabilities: prevention, diagnostics, and therapeutics • Chemical Surety and ABSL-3 High Containment • Animal studies conducted IAW 21 CFR Part 58 and FDA’s “Animal Rule” in species ranging from rodent to NHPs
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • DET-17-08 (Awarded; Chem Dx) • DET-17-08 (In Negotiation; Chem Exposure In Vitro Dx) • TRE-18-04 (In Basket; Large Animal OPNA Model) • HDTRA1-17-C-0011 (NHP presymptomatic biomarkers to distinguish bacterial from viral infections) • HDTRA1-16-0028 (NHP <i>F. tularensis</i> vaccine studies) • HDTRA1-16-0020 (Rodent PK studies) • HHS0100201700001C - BARDA (NHP PK studies) • DTRA/BARDA Sample to Sequence Platform Programs 	<ul style="list-style-type: none"> • Pre-/Nonclinical MCM studies against Chem/Bio agents <ul style="list-style-type: none"> ○ Toxicology, Analytical & Bioanalytical (R&D and GLP) ○ Dose-Ranging, Formulation Optimization ○ Sample Stability & Storage, Custom Synthesis • Biomarkers of the host immune response • Prototype Chem or Bio Agent Dx Systems • Clinical research collaborators and partners needing IVD and biodetection support.



Silver Lake Research

Member Information	Member Capabilities
<p>Silver Lake Research, Azusa, California www.silverlakeresearch.com</p> <p>Key POC(s): Mark Geisberg, Director of R&D mgeisberg@silverlakeresearch.com</p> <p>Business Class: Small</p> <p>Status: Non-Traditional</p> <p>Member since: 2018</p>	<p><u>SENSORS / RELATED SERVICES:</u></p> <ul style="list-style-type: none">- Generation of monoclonal antibodies – EAP System- Design and development of instrumental immunoassays- Design and development of lateral-flow assays / readers- Rapid prototyping- Manufacturing (capacity >10M tests /year)
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none">• Multiple projects with DHS:<ul style="list-style-type: none">• Antibodies for detection of Chem /Bio threat agents• Immunodiagnosics• Hand-held / Lateral-flow tests	<ul style="list-style-type: none">• New detection reagents – antibodies and analogs• Hand-held / POC Diagnostics – design, development• Hand-held / POC Diagnostics – rapid prototyping• Hand-held / POC Diagnostics – software/reader integration• Hand-held / POC Diagnostics – low-cost manufacturing



Silver Lake Research




Member Information	Member Capabilities
<p>Silver Lake Research, Azusa, California www.silverlakeresearch.com</p> <p>Key POC(s): Mark Geisberg, Director of R&D mgeisberg@silverlakeresearch.com</p> <p>Business Class: Small Status: Non-Traditional Member since: April, 2018</p>	<p><u>DIAGNOSIS / DETECTION:</u></p> <ul style="list-style-type: none">- Generation of monoclonal antibodies – EAP System- Design and development of instrumental immunoassays- Design and development of lateral-flow assays / readers- Rapid prototyping- Manufacturing (capacity >10M tests /year)
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none">• Multiple projects with DHS:<ul style="list-style-type: none">• Antibodies for detection of Chem /Bio threat agents• Immunodiagnostics• Hand-held / Lateral-flow tests	<ul style="list-style-type: none">• New detection reagents – antibodies and analogs• Hand-held / POC Diagnostics – design, development• Hand-held / POC Diagnostics – rapid prototyping• Hand-held / POC Diagnostics – software/reader integration• Hand-held / POC Diagnostics – low-cost manufacturing

Member Information	Member Capabilities
<p>Murtech, Inc Glen Burnie, MD www.murtech.us Key POC(s): Paul Diaz pdiaz@Murtech.us Business Class: Veteran Owned Small Business Status: Non-Traditional Member since: November, 2017</p>	<p>PROTECTION SENSORS RELATED SERVICES</p> <ul style="list-style-type: none"> • Program Management • CBRN Defense • Systems Management • Systems Engineering • Evaluation & Testing • Integrated Asset Management • Supply Chain Management • Hardware Development and Integration
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Systems Engineering and Full Life-Cycle Logistics support to Dismounted Reconnaissance Sets, Kits, and Outfits (DRSKO) • JPM CA PDCT & II SME Support • Department of Defense (DoD) Critical Reagents Program (CRP) 	<p>Based on our set of Core Capabilities we are interested in Teaming Opportunities that span any of the functional areas within the CWMD Consortium</p>

Member Information	Member Capabilities
<p>Murtech, Inc Glen Burnie, MD www.murtech.us Key POC(s): Paul Diaz pdiaz@Murtech.us <u>Business Class: Veteran Owned Small Business</u> <u>Status:</u> Non-Traditional <u>Member since: April 2016</u></p>	<p>Program Management CBRN Defense Systems Management Systems Engineering Evaluation & Testing Integrated Asset Management Supply Chain Management</p>
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none">• Department of Defense (DoD) Critical Reagents Program (CRP)	<p>Based on our set of Core Capabilities we are interested in Teaming Opportunities that span any of the functional areas within the CWMD Consortium</p>

Southwest Research Institute® San Antonio, Texas



Member Information	Member Capabilities
<p>Southwest Research Institute San Antonio, TX swri.org Key POC(s): Michael MacNaughton, mmacnaughton@swri.org Darrel Johnston, darrel.johnston@swri.org Business Class: Non-Profit Status: Traditional, exempt from cost-share Member since: 1/5/2018</p>	<ul style="list-style-type: none">• Neat agent chemical surety laboratory• >30 years CBRN R&D, agent defeat and demilitarization experience• Urban/rural sites for sensor testing and full mission profile exercises• Instrumented field test and explosive ranges• Extensive analytical laboratory capabilities• Weapons effects and dispersion modeling• High level irradiation and radiochemistry facility• Top Secret Facility Clearance• Access to BSL-3/-4 laboratories
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none">• CWMD – Thermite bag for field destruction of CW/BW munitions• CWMD – Cyanogen Chloride production for gas mask filter testing• AFNWC - CWA/BWA fundamental thermal neutralization kinetics• DARPA – mobile CWA destruction technology• DTRA/USAF – Agent defeat technology and test diagnostics• USA- CWA demil laboratory and monitoring at 4 facilities• USA, EPA & DHS – CWA Decontamination techniques 	<ul style="list-style-type: none">• CW/BW neutralization mechanisms• Instrumentation development and verification• Small scale, laboratory, field test and exercises• Destruction/decontamination technologies• Prototype design, fabrication and evaluation  

Southwest Research Institute® San Antonio, Texas



Member Information	Member Capabilities
<p>Southwest Research Institute San Antonio, TX https://www.swri.org</p> <p>Key POC(s):): Joe McDonough, jmcdonough@swri.org Mike MacNaughton, mmacnaughton@swri.org Business Class: Nonprofit Trad/Nontrad Status: Exempt from cost-share Member since: February 2016</p>	<p><u>PREVENTION, TREATMENT, DIAGNOSIS /DETECTION</u></p> <ul style="list-style-type: none"> • FDA-inspected cGMP class 10000 operations for clinical and preclinical supplies of drug and finished dosage. • Formulation development for any route of administration. • Translational development experience from discovery through IND submission and Medical devices. (Total CMC) • Nonclinical and regulatory support • Chemical Surety and DEA Schedule 1-5 handling license.
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> - Next Gen CNS Penetrating Oxime; W15QKN-16-9-1002 - Ft Vaccine Development; 18-04-13-002 - Cyanide Antidote Formulation; W81XWH-17-P-0308 - Cyanogen Cl ; RPP CWMD-1933 - HI-6 DMS, HLo7, synthesis & formulation (pat pending) - MMB4, HLo7, and stable autoinjectable formulations - New antivirals and anti infectives 	<ul style="list-style-type: none"> • Opioid countermeasures development • Nerve agent and Cyanide medical countermeasure development • Analgesics development • Vaccine stabilization • WMD detection • Clinical development





Member Information	Member Capabilities (Sensors)
<p>The Pennsylvania State University University Park, PA ABRL: https://abrl.psu.edu/ ARL: https://arl.psu.edu/</p> <p><u>Key POC(s):</u> Walt McVey, ABRL Program Manager, wrm10@psu.edu Amanda Clase, ARL Program Manager, acc5804@arl.psu.edu Crystal Hubler-Butterbaugh, ABRL Contracts Manager, cdh12@psu.edu</p> <p><u>Business Class:</u> Academic, Non-Profit <u>Status:</u> Non-Traditional <u>Member since:</u> February 2018</p>	<ul style="list-style-type: none"> • Sensor and detector development and rapid prototyping for Chemical and Biological Warfare (CBW) agents • Data integration and analysis from broad spectrum of sources for biological and chemical threats • Navy UARC, materials characterization, nanofabrication, materials computation, ABSL-3, animal models and industry friendly IP policy • T&E using our vast global network where EDPs (Especially Dangerous Pathogens) are endemic
CWMD Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • CWMD RPP 18-23: Development of Tunable Electronic Components for Reconfigurable Subsystems, Dr. Priya • CWMD 1907-001: Fully Integrated Microfluidic Collection and Identification Device for Analyzing Air Samples DTRA, Dr. Guan 	<ul style="list-style-type: none"> • Rapid advanced prototype and manufacturing capabilities • Biological and Chemical surety capabilities (BSL 4) and chemical surety facilities





Member Information	Member Capabilities (Prevention)
<p>The Pennsylvania State University University Park, PA ABRL: https://abrl.psu.edu/ ARL: https://arl.psu.edu/</p> <p><u>Key POC(s):</u> Walt McVey, ABRL Program Manager, wrm10@psu.edu Amanda Clase, ARL Program Manager, acc5804@arl.psu.edu Crystal Hubler-Butterbaugh, ABRL Contracts Manager, cdh12@psu.edu</p> <p><u>Business Class:</u> Academic, Non-Profit <u>Status:</u> Non-Traditional <u>Member since:</u> December 2017</p>	<ul style="list-style-type: none"> • Animal models, immunology, toxicology, diagnostic prototyping, metabolomics and a host of core capabilities. • Data integration and analysis from broad spectrum of sources for biological and chemical threats • Navy UARC, materials characterization, nanofabrication, materials computation, ABSL-3, and industry friendly IP policy • T&E using our vast global network where EDPs (Especially Dangerous Pathogens) are endemic
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • MCDC-RPP-18-04/PRE-19-04-12: (Basket) Development and Validations of Co-culture Assays for Predicting Efficacy of Vaccines against <i>Francisella tularensis</i>, Dr. Kirimanjeswara 	<ul style="list-style-type: none"> • Rapid advanced prototype and manufacturing capabilities • Biological and Chemical surety capabilities (BSL 4), chemical surety facilities • GLP (Good Laboratory Practice)/GMP (Good Manufacturing Practice) partnerships under rapid prototype development teaming.

Chenega Corporation



Member Information	Member Capabilities
<p>Chenega Healthcare Services San Antonio, Texas https://www.chenega.com/ Key POC(s): Ted Terrazas tterrazas@Chenega.com Business Class: ANC – 8a, Small Status: Non-Traditional Member since: December 2017</p>	<ul style="list-style-type: none"> ✓ Technology & Scientific Integrator ✓ Rapid Technology Transition ✓ Large Scale Contract Procurement Management ✓ Technical and Functional Subject Matter Expertise ✓ Technology Assessment of Impact on Human Factors ✓ Modeling & Simulation ✓ Prototype Development ✓ CBRN Pathogen Development ✓ BWA/CWA Countermeasure Development ✓ CBRN Medical Diagnostics Platform Design & Implementation
Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • JE-RDAP (W911QY-18-0036) • TATRC • USAISR • CDC – NCIRD • MTEC 	<ul style="list-style-type: none"> ➤ JPM-MCS ➤ BWA/CWA detection & MCM Development ➤ Prevention ➤ Diagnosis/Detection

Chenega Corporation



Member Information	Member Capabilities
<p>Chenega Healthcare Services San Antonio, Texas https://www.chenega.com/ Key POC(s): Ted Terrazas tterrazas@Chenega.com Business Class: ANC – 8a Status: Traditional Member since: December 2017</p>	<ul style="list-style-type: none"> ✓ Technology & Scientific Integrator ✓ Rapid Technology Transition ✓ Large Scale Contract Procurement Management ✓ Technical and Functional Subject Matter Expertise ✓ Technology Assessment of Impact on Human Factors ✓ Modeling & Simulation ✓ Prototype Development ✓ CBRN Pathogen Development ✓ BWA/CWA Countermeasure Development ✓ CBRN Medical Diagnostics Platform Design & Implementation
Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • JE-RDAP (W911QY-18-0036) • TATRC • USAISR • CDC – NCIRD • MTEC 	<ul style="list-style-type: none"> ➤ JPM-MCS ➤ BWA/CWA detection & MCM Development ➤ Prevention ➤ Diagnosis/Detection

Emergent Product Development Gaithersburg Inc.



Member Information	Member Capabilities
<p>Emergent BioSolutions Inc. (Emergent Product Development Gaithersburg Inc) Gaithersburg, Maryland https://www.emergentbiosolutions.com/ Key POC(s): Maureen Shanks (shanksm@ebsi.com), Lauren Queen (queenl@ebsi.com), Barb Solow (solowb@ebsi.com) Business Class: Large Status: Traditional Member since: 2016</p>	<p>Categories: PREVENTION, TREATMENT</p> <p>Additional capabilities</p> <ul style="list-style-type: none"> • Vaccine, therapeutic, and drug/device product development • Process and Formulation Development, Assay and Analytical Development, and GMP Manufacturing (HHS CIADM) • Regulatory experience including FDA Animal Rule • Nonclinical and clinical development • Quality Management
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • 19-03 (TRE): Development of Diazepam Auto-injector • 18-08 (TRE): Proof of Concept Formulations for CBRN Medical Countermeasures to be administered via Autoinjector • 16-03: Development of a Dual Drug Delivery Device (D4) Autoinjector 	<p>Developing, partnering, or licensing candidate products that provide U.S. military forces and the nation safe, effective, and innovative solutions for chemical, biological, and public health threats</p>

Institute Therapeutic Innovation Univ. Florida



Member Information	Member Capabilities
<p>Institute Therapeutic Innovation, Univ. Florida Orlando, Florida http://iti.medicine.ufl.edu/ Key POC(s): Henry S. Heine henry.heine@medicine.ufl.edu 407-313-7062 Business Class: Academic Status: Traditional Member since: Nov, 2017</p>	<p>TREATMENT</p> <ul style="list-style-type: none">• Microbiology and Therapeutic Evaluation• Analytical Chemistry LCMSMS• In vitro Hollow Fiber testing Models.• Murine infection models.• BSL3 and BSL2 Aerosol/ pneumonia models.• Pharmacodynamic modeling-Monte Carlo Sims• <i>Anthrax, Y. pestis, F. tularensis, B. mallei, B. pseudomallei, Coxiella.</i>• <i>Acinetobactor, Pseudomonas, M.Tb.</i>• Dengue, Influenza, Zika, Chikungunya, Hep-C• NHP therapeutic trial support
MCDC Projects/Related Efforts	Desired Teaming Areas
	<p>Therapeutics-screening and evaluation Vaccine Development (early testing in animal models) BW-Disinfectant/Decontamination BW detection?</p>



Battelle Memorial Institute



Member Information	Member Capabilities
<p>Battelle Memorial Institute Columbus, OH http://www.battelle.org</p> <p>Key POC(s): Brian M Taylor, PhD; taylor@battelle.org Satya P Chauhan, PhD; chauhan@battelle.org William D McKim; mckimw@battelle.org</p> <p>Business Class: Non-Profit</p> <p>Status: Traditional</p> <p>Member since: May, 2016</p>	<ul style="list-style-type: none"> • World’s largest non-profit CRO with >80 years supporting DOD • Decades supporting MCM development, including 14 of 19 products approved under the FDA “animal rule” • Chemical surety and biological select agent programs to include personal reliability programs, including TS-SCI capability • World’s largest privately-owned BSL-3 laboratory, with extensive IND-enabling and pivotal toxicology and Test & Evaluation capabilities • Animal-model development, including FDA validation/qualification • Proof-of-concept and pivotal (GLP) efficacy testing in a wide range of animal models up to NHP/large animal • Full array of validated assays to support FDA-regulated non-clinical and clinical testing • Comprehensive medical device development capabilities (systems integration, human factors engineering, cybersecurity, materials and formulations, ISO 13485, developmental engineering, etc.)
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Prime on 1 MCDC PP and a sub on multiple MCDC PPs. • The premier CRO supporting MCM development! 	<ul style="list-style-type: none"> • Our incredibly broad and deep capabilities can be used to support the development of a range of medical countermeasures to CBRN threats, either as a Prime or a Sub. Partnering with Battelle can be your road-map to success, and potentially help avoid cost-share requirements due to non-profit status of Battelle!


Member Information	Member Capabilities
<p>Windgap Medical, Inc. Watertown, MA www.windgapmedical.com</p> <p>Key POC(s): Adam Standley astandley@windgapmedical.com</p> <p>Business Class: Small Business</p> <p>Status: Non-Traditional</p> <p>Member since: July 2018</p>	<p>TREATMENT</p> <ul style="list-style-type: none"> - Dual-chamber autoinjector platform & training device - Automated Reconstitution upon removal of cap - GMP filling line (powder and liquid drug) - In-house Device testing laboratory (ISO 11608 & MIL STD 810G) - In-house formulation development and filling laboratory
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Delivery Device for Treatment of Cyanide Poisoning – CounterACT U01 award 1U01NS112125-01 • Epinephrine Autoinjector (EAI) licensed worldwide sales & distribution rights to ALK Abello, Inc. • Nalmefene Autoinjector – currently in development 	<p>Seeking collaborators to develop new therapies & medical countermeasures to meet expanding needs of the US Military.</p> <p>Contact us if you have an innovative drug or biologic that can benefit from use in a dual-chamber autoinjector.</p>

Integrated BioTherapeutics, Inc.





Member Information	Member Capabilities
<p>Integrated Biotherapeutics, Inc. Rockville, Maryland Key POC(s): Dr. M. Javad Aman, javad@ibtinc-usa.com Dr. Frederick Holtsberg, rick@ibtinc-usa.com Business Class: Small Trad/Nontrad Status: Nontraditional Member since: June 2016</p>	<ul style="list-style-type: none"> • Human and macaque monoclonal antibody discovery • Antibody production and purification • Protein production in mammalian, insect cell (S2, Sf9), and bacterial systems. • Extensive bioanalytical development and testing capability: biophysical characterization of proteins & mAbs, Luminex, flow cytometry, toxin neutralization, antiviral assays, MIC, MBC. • Vivarium with 15 animal models established: Dengue, Influenza, Chikungunya, Zika, <i>S. aureus</i>, <i>S. pneumoniae</i>, <i>E. coli</i>.
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Pan-ebolavirus monoclonal antibody cocktail with POC in NHPs • Novel <i>best-in-class</i> Marburg virus monoclonal antibodies (NIH) • Anti-toxin monoclonal antibodies (NIH) • Staphylococcus toxin-based antibody and vaccine program (DTRA, NIH, CARB-X) 	<ul style="list-style-type: none"> • Joint application to MCDC for advanced development of monoclonal filovirus therapeutics • cGMP manufacturing of mAbs • Analytical development • Efficacy testing

Vanderbilt Vaccine Center

Member Information	Member Capabilities
<p>Vanderbilt Vaccine Center Nashville, TN vcenter.org Key POC: James Crowe, james.crowe@vumc.org Business Class: Academic Status: Non-Traditional Member since: June, 2018</p> 	<ul style="list-style-type: none"> • Human monoclonal antibodies for infectious dz • PREVENTION – Prophylactic human mAbs • DIAGNOSIS/DETECTION – MAbs for use as biorecognition elements in POC Dx tests • TREATMENT – Therapeutic human mAbs for
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • DARPA Pandemic Prevention Platform (P3) performer site • DARPA-funded clinical trials of 2 of our chikungunya mAbs • DTRA funding for Marburg > BARDA development of MR191 • AHEAD100 Program – Human mAbs for 100 most likely epidemics 	<ul style="list-style-type: none"> • We make the lead mAbs for infectious diseases • Partner(s) develop manufacturing, delivery, CMC and tox of human mAbs as prophylactic or Rx drugs • Partner(s) manage eIND or Phase I trial registration

Whitespace Enterprise Corp.



Member Information	Member Capabilities
<p>Whitespace Enterprise Tempe, Arizona http://wsecorp.com/ Key POC(s): Dr. Frederic Zenhausern; fzenhaus@email.Arizona.edu Business Class: Small Business / University Status: Non-Traditional Member since: March 2018</p>	<ul style="list-style-type: none"> Contract Research Services (e.g. OCC drug testing) Clinical Lab Services incl. Omics and data analytics (AI) Product Development and Dx medical devices production CBRN assay developments and applications Clinical trials <div style="display: flex; justify-content: space-around; align-items: center;">     </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">   </div>
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> OTA MCDC-RPP-18-04 DET-18-04-09; Multiplex Vertical Flow Paper-based Immunoassay (VPI) Diagnostic System 5 Tier I pathogens, smartphone reader <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">    </div>	<ul style="list-style-type: none"> Biomarkers and assay developers Parenteral drug delivery systems (e.g. pre-filled syringes) Defense product developers Apps and POC Data analytics (e.g. AI, ML...)

CMC Pharmaceuticals, Inc.



Member Information	Member Capabilities
<p>CMC Pharmaceuticals, Inc., Cleveland, OH www.cmcpharm.com Key POC(s): Mike Radomsky, PhD - mike.radomsky@cmcpharm.com Business Class: Small Status: Non-Traditional Member since: December 2017</p>	<p><u>TREATMENT & PREVENTION</u> DRUG PRODUCT DEVELOPMENT SERVICES:</p> <ul style="list-style-type: none"> ● Pre-formulation and Formulation Studies ● Analytical Method Development & Validation ● Controlled Release and Polymeric Drug Delivery ● Prototype Preparation for Development Studies ● cGMP/ICH Stability, Compatibility, and Release Testing
MCDC Projects/Related Efforts	Desired Teaming Areas
<p>Dual Formulation of Atropine-Scopolamine with Enhanced Stability for Use as a MCM to Combat OPNA Threats</p> <ul style="list-style-type: none"> ● DOD Phase I contract completed March 2019 ● DOD Phase II contract initiated October 2019 <p>Formulation Development of Scopolamine Hydrobromide Trihydrate for Autoinjector Use</p> <ul style="list-style-type: none"> ● Battelle subcontractor on DOD contract - 2 year effort completed August 2019 	<p>Partners Requiring Chemistry, Manufacturing, and Controls Expertise:</p> <ul style="list-style-type: none"> ● Formulation & Analytical Development and Optimization ● Identification of Solubilizing & Stabilizing Strategies ● Treatment and Prevention MCMs that require controlled release or drug delivery technology ● FDA-Pharma Process/Manufacturing Development & Troubleshooting ● cGMP Testing Services

Chembio Diagnostic Systems



Member Information	Member Capabilities
<p>Chembio Diagnostic Systems, Inc. Hauppauge, New York http://chembio.com/ Key POC(s): Christine Rousseau, crousseau@chembio.com Javan Esfandiari, jesfandiari@chembio.com Business Class: Small Business Status: Traditional Member since: October 2019</p>	<p>DIAGNOSIS/DETECTION</p> <ul style="list-style-type: none"> • Point-of-care diagnostics (3 lateral flow platforms) • Advanced multiplexing with Digital Analyzer • Infectious diseases: Dengue, Zika, Ebola, Chik, HIV, Syphilis, Anthrax Burkholderia, Pestis, Tularemia) • Cancer • Traumatic Brain Injury (TBI) / Concussion • Pharma collaborations
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • No MCDC projects (yet) • DPP Zika IgM rapid POC test with electronic portable analyzer (BARDA) 	<ul style="list-style-type: none"> • Proprietary portable multiplex POC diagnostic platform DPP® • Traumatic Brain Injury • Tropical Fever or Other Infectious/Biothreat Agents Multiplex • Sexually Transmitted Diseases • Diagnostics Data Reporting Systems • Any Serology-based Immunoassay for Point-of-Care



Member Information	Member Capabilities
<p>CUBRC, Inc. Buffalo, NY www.cubrc.org Key POC(s): Katie Edwards, edwards@cubrc.org David Mangino, mangino@cubrc.org Business Class: Not-for-Profit Status: Non-Traditional Member since: June 2016</p>	<p><u>TREATMENT</u></p> <ul style="list-style-type: none"> • Systems Integrator for MCM development; early-stage discovery through advanced development (IND, NDA, 501K FDA approval). • Deep expertise planning full development programs from preclinical toxicity studies through GLP and GMP production and clinical studies. • Experience executing MCM development programs including management and subcontracting with all CROs and partners. • Specialized laboratory facilities (BSL-2 and BSL-3) to support the MCM community’s R&D projects and partnerships with 30+ CROs. • Developing a TREATMENTS for MDR bacterial and biotreat pathogens.
MCDC Projects/Related Efforts	Desired Teaming Areas
<p>BARDA</p> <ul style="list-style-type: none"> • Advanced development of novel tetracycline antibiotic • Development of diagnostic platform for AMR bacteria <p>FDA – Using in silico tools to predict vaccine immunogenicity</p> <p>DTRA</p> <ul style="list-style-type: none"> • Development and integration of predictive toxicology tools • <i>Burkholderia</i> vaccine antigen design program 	<ul style="list-style-type: none"> • Partnering to jointly pursue MCM programs and leverage our scientific, proposal development and contract performance expertise in medical countermeasure development. • Partnering to transition our current technologies: 1) vaccine and biomarker discovery and development for threat pathogens; and 2) our antibiotics to treat biotreats and AMR public health threats).

Allotropic Tech



Member Information	Member Capabilities
<p>Allotropic Tech Halethorpe MD 21227 https://allotropictech.com Key POC(s): Bob Balcerzak - bob.b@allotropictech.com Business Class: Small Status: Non-Traditional Member since: July 2018</p>	<p>DIAGNOSIS/DETECTION or TREATMENT</p> <p>Full service development and recovery of complex proteins/enzymes utilizing a unique expression system coupling baculovirus with insect larvae</p> <p>Specializing in: complex proteins – Hard to Express proteins - rapid turn around – complex structures – screening of mutations</p>
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • Supplier of enzymes used by USAMRICD including: <ul style="list-style-type: none"> • Acetylcholinesterase (AChE) • Paraoxonase (PON 1) • Fusion Proteins • Supplier of enzymes and proteins to the NIH including: <ul style="list-style-type: none"> • NEI – Mutated enzymes for orphan eye diseases • NHL&B – Lipid related proteins 	<p>Early stage research and development of proteins and enzymes used for detection, prevention and or treatment of exposure to chemical weapons and emerging diseases.</p>

Consegna Pharma Inc.



Member Information	Member Capabilities
<p>Consegna Pharma Inc. Pittsburgh PA www.consegnapharma.com Key POC(s): Larry Zana, CEO, lzana@consegnapharma.com Business Class: Small Status: Non-Traditional Member since: April 2018</p>	<p><u>PREVENTION and TREATMENT</u></p> <ul style="list-style-type: none"> • Design and development of long-acting injectable (LAI) drug formulations • AI-based Computational Drug Delivery™ software to optimize LAI formulation design
MCDC Projects/Related Efforts	Desired Teaming Areas
<ul style="list-style-type: none"> • 24 hr naloxone to address renarcotization <ul style="list-style-type: none"> • Animal PK study / In-vitro efficacy study • 7-day naloxone for opioid prophylaxis <ul style="list-style-type: none"> • Animal PK study • 20-day butyrylcholinesterase suitable for autoinjector • Fixed-dose combination to treat TBI • Fixed-dose combination for Acute Radiation Syndrome 	<p>Development of long-acting injectable formulations</p> <ul style="list-style-type: none"> • Medical countermeasures <ul style="list-style-type: none"> • Opioid poisoning (treatment and prophylaxis) • Nerve agent exposure (prophylaxis) • Acute radiation syndrome (treatment and prophylaxis) • TBI (treatment) • Battlefield Pain Management (treatment)